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Researching protective and promotive factors in mental health

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Introduction

This issue of the Journal features two cohort studies which show a marked excess of schizophrenia in African Americans,¹ and a dose response relationship between perceived discrimination and excess rates of schizophrenia in different minority groups in the Netherlands.² These studies mirror one another, and numerous other studies carried out in developed countries, in inferring that minority groups are at elevated risk for schizophrenia, and that social factors - particularly discrimination-related disadvantages – are partially responsible.

That these elevated rates have been the subject of scientific investigations is fully justified – if the higher rate of schizophrenia in minority groups were ignored, we would feel rightly outraged. Likewise, we believe ignoring the mental health needs of other disadvantaged groups - for example, women or conflict-affected people - is both scientifically and morally indefensible. It is scientifically indefensible because these groups are particularly vulnerable to suffering from poor mental health. It is morally indefensible because in the context of other important disadvantages across multiple axes, attempting to understand and address mental health inequalities becomes still more pressing as a matter of social justice.³

Nevertheless, in this editorial we add our voices to those who call for a broadening of the research agenda beyond the risk factors for poor mental health and the mental health problems of socially vulnerable groups. Instead, we propose that more attention needs to be paid to the protective factors which decrease the probability of suffering mental health problems, and to the promotive factors which actively enhance positive psychological well-being. Our argument is that protective and promotive factor epidemiology is not simply the converse of risk factor epidemiology, either conceptually, methodologically or in its potential public health benefits; and that a failure to investigate protective and promotive factors rigorously may therefore hamper our ability to understand mental health problems and to promote good mental health.

Investigating protective factors at the group level

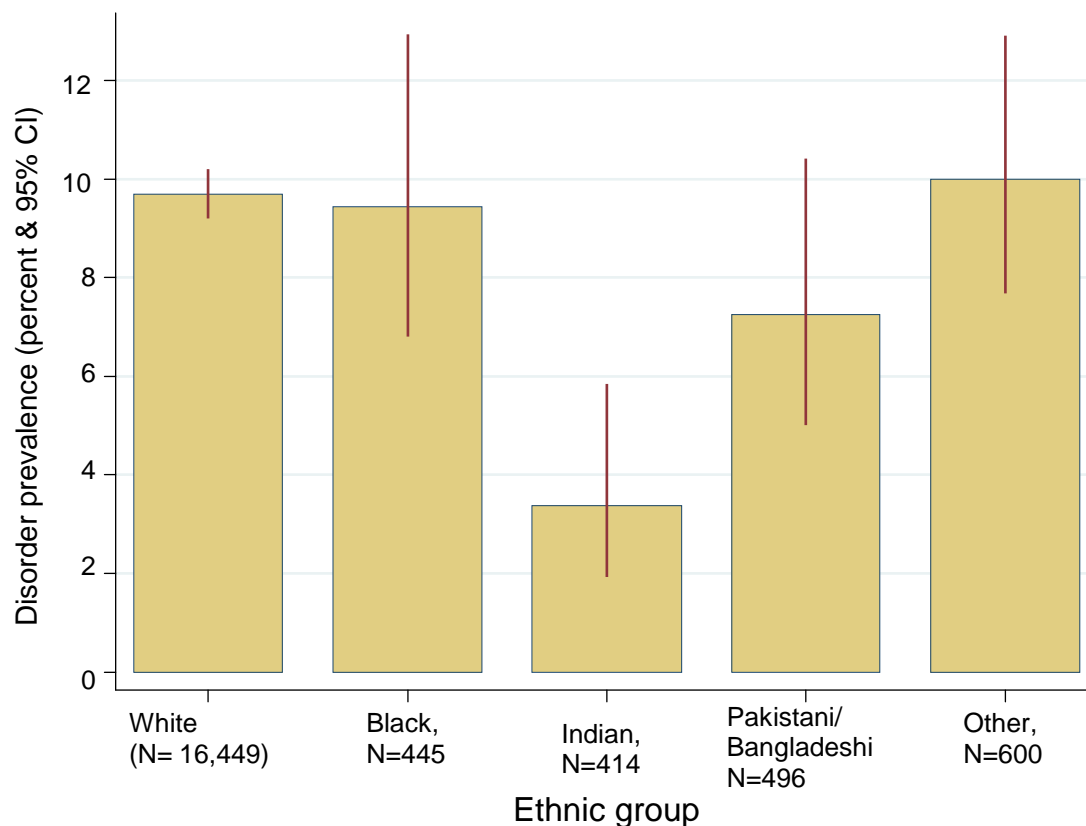
Two major types of epidemiological findings which can lead to hypothesis driven studies investigating protective factors are the observation of protective factors operating on particular groups and the observation of protective factors operating in particular individuals.

The first type of finding stems from the observation of marked variations in the rates of mental disorders in different populations, and proceeds with the careful investigation of those groups which do better. Existing descriptive evidence clearly indicates significant scope for such studies, despite the fact that they are considerably rarer than a focus upon groups which do worse. One of the most compelling findings of large-scale epidemiological surveys using sophisticated methods for case ascertainment and diagnosis is the vast variation in rates of nearly all mental disorders both within and between countries. Thus, the World Mental Health Surveys⁴ carried out in 14 countries

reported that the prevalence of having any WMH-CIDI/DSM-IV common mental disorder in the prior year varied widely, from 4.3% in Shanghai to 26.4% in the United States, with an interquartile range (IQR) of 9.1%-16.9%. Similarly, a recent systematic review of the prevalence of schizophrenia reported a large variation between countries.⁵ Particularly noteworthy is the fact that some of the lowest prevalences of disorders were in some of the poorest and most disadvantaged populations in the world – populations in which well-established individual-level risk factors such as acute economic difficulties, poor housing environments or low education are widespread. While the possibility of an ecological fallacy makes this discrepancy difficult to interpret, it nonetheless deserves further examination.

Turning to comparisons within countries, it is striking that the attention given to the high rates of some mental disorders in some minority groups has not thus far been balanced with equivalent attention to instances where minority groups seem to enjoy a mental health advantage. Yet such examples do exist. For example, two nationally-representative, population-based surveys in Great Britain which assigned diagnoses using multi-informant, clinician-rated information, found a three-fold reduction in the rates of child mental disorder in British Indians.^{6,7} In the context of a deterioration of child mental health in Britain over the last 50 years^{8,9}, it would clearly be of great interest to understand why one particular group of British children seems to be doing so well.

Figure 1; Prevalence of any mental disorder by ethnicity in the British Child and Adolescent Mental Health Surveys of 1999 and 2004 combined (95% confidence intervals)



We present the above observations, based thus far on descriptive findings alone, as ‘motivating examples’ of the kind of research questions which we feel have hitherto been neglected. Thoughtful methodology is, however, essential for taking such comparative projects forward. Some considerations are relatively specific to protective factor epidemiology, such as powering studies in accordance with the low rate of problems expected in the protected group (and not the average across all groups), in order to have a sufficient numbers to compare affected individuals with those without the disorder. This becomes particularly important where the apparently advantaged group is in any case numerically small; to take the example of the British Indians presented above, the absence of ethnic oversampling meant that out of a total of 18500 children only 414 were British Indians, of whom just 14 had a psychiatric diagnosis.

A more fundamental issue is the importance of attempting to distinguish between true mental health differences and the possible effects of relative underreporting. This is, of course, a problem common to all comparisons of mental health across space, time or culture, and one which cannot be straightforwardly resolved. It is not intractable, however, and can be addressed through such strategies as looking at the coherence of mental health subscales; looking at the concordance of different measures (e.g. brief questionnaire vs. detailed interview); exploring agreement between different informants reporting on the same child; and through thorough qualitative or anthropological evidence to assess the likelihood that a large fraction of ‘emic’ disorders - i.e. disorders which are culturally specific or unique to the apparently advantaged group - have been missed.

Investigating protective factors at the individual level

A second profitable place to begin protective-factor psychiatric epidemiology is in the study of those individuals who are exposed to known risk factors and yet who nonetheless remain free of a mental disorder. As we argue above, an understandable concern with the negative effects of such factors as socio-economic adversity or inter-personal racism should not sideline the remarkable and important question of why the majority of persons exposed to these risk factors do not, in fact, develop mental health problems. Understanding why some high risk individuals remain mentally healthy under these circumstances may provide important insights into protective social factors or into aspects of individual resilience which prevent mental health problems, just as investigating commercial sex workers who do not contract HIV/AIDS may play an important part in our understanding of protective factors against the virus.^{10 11}

We follow Rutter¹² in arguing that a comprehensive research agenda is needed here, spanning biological, cognitive and social factors, and employing qualitative and quantitative methodologies. This would therefore encompass recent qualitative research into factors such as “being loved” and “being told if I’ve done wrong” which HIV/AIDS orphans in Cape Town saw as protecting them against emotional and behavioural problems.¹³ It would also include the compelling findings in recent years as to the role of gene-environment interactions in the aetiology of mental disorders, with particular gene alleles conferring a substantial degree of protection against the negative effects of

childhood maltreatment or other life stressors.^{14 15} The starting point for elucidating these interactions was precisely in identifying children who did not develop problems despite early maltreatment, and investigating what distinguished them from those children who did.

Once again, several methodological issues require close attention. One issue is the particular importance of population-based rather than clinic-based sampling, if one is to study in detail the characteristics of individuals who have remained mentally healthy. For example, follow-up data from the Isle of Wight study has demonstrated the importance of good quality relationships in adolescence and adulthood in protecting against psychopathology in adults who had experienced physical or sexual abuse during childhood.¹⁶ An alternative design involves the exclusive sampling of persons at high risk of a mental disorder. So, for instance, the importance of the quality of adult relationships in determining the extent to which early adversity was a risk for adult psychopathology has also been demonstrated through the long-term follow-up of institutionally-reared women.^{17 18}

These highlight another issue, which is the importance of life-course approaches. Life course approaches are necessary because childhood risk factors may be mitigated by or mediated through factors in later life, and because there may be interactions between adversities and protective factors at different stages of development.^{12 19} The Isle of Wight follow-up data provides an intriguing hint of one possible such interaction, with adults who remained mentally healthy despite early abuse having substantially lower rates of problems on other psychosocial scales (e.g. criminality and relationship quality) than those who were also mentally healthy but had not experienced abuse.¹⁶

Realising the public health benefit

In the absence of some knowledge of underlying mechanisms, the observation of group- and individual differences have few implications for public health practice and prevention. It is therefore vital not to confuse the description of differences between countries, social groups or individuals with an explanation of those differences,²⁰ but rather to use such differences as an informative starting point for future research. Often a critical first step is systematic qualitative research exploring how provisionally identified protective factors are understood by those involved, and eliciting possible explanations. The next step is operationalising the protective factors using validated and theory-driven quantitative measures.

For example, recent research from the USA and China investigated in detail the risk and protective factors at the individual, family, peer, school and neighbourhood level affecting adolescent risk-taking behaviours (e.g. delinquency or problem drinking). Similar factors directly explained a substantial proportion (nearly 50%) of the within-country variation in both settings, with protective and risk factors were of roughly equal importance. Protective factors also had an additional powerful indirect role in mitigating the effect of risk factors.²¹ What is particularly noteworthy about this study is the use of a sophisticated explanatory model separating out risk and protective factors relating to

role models; factors relating to controls (both internal and social) on deviant behaviour; and factors relating to social support.. This allowed the authors to pinpoint which specific aspects of social protection seemed most important, these being individual-level internal controls and teacher support in both countries. Interestingly, this differed from the most important component risk factors, which were the role models provided by friends and school-peers. This example therefore illustrates the importance of measuring and modelling protective factors and risk factors simultaneously and in a sophisticated way, and of not simply assuming that the former are the converse of the latter.

In the above cross-national comparison, the most important factors were the same in both groups. For the purposes of cross-cultural psychiatry this is an interesting finding in its own right. It is, however, important to remember that often the cases where protective factors differ are the most informative from a public health perspective. This is particularly true when conducting research inspired by the observation that – as in the British Indian example above - problem rates are markedly lower in one social group than the other. In such cases, if the difference is explained largely by known effects of established risk and protective factors, then investigating the minority group may involve expending considerable additional time and money to measure something which could have been more efficiently measured in the full sample. What makes such research potentially worthwhile is therefore the hope of finding previously unidentified protective factors or constellations of factors, which may exist outside of that particular social group but which are spread too thinly to have been recognised before.

Once provisionally identified, the role of putative protective factors should be confirmed through hypothesis driven studies, with one ultimate aim being to evaluate protective interventions in randomised controlled trials. Protective interventions may aim to mitigate the effect of powerful social risk factors, as illustrated by the long-term benefits for child development and mental health gained through early interventions providing weekly play sessions for mothers and children living in poverty²². Better yet, interventions may also support protective factors which prevent exposure in the first place. This is exemplified by a South African trial which demonstrated that access to economic empowerment, through micro-credit schemes, was effective in reducing the exposure of women to intimate-partner violence,²³ this being a major risk factor for mental health problems.

From protective to promotive factors

We have thus far concentrated on protective factors, examining research strategies which look at the informative absence of problems ; that is, these strategies define their outcome in terms of poor mental health, and then explore factors contributing to instances when mental health is better than would be expected on the basis of population-wide averages or individual-level risk factors. Yet if we follow the World Health Organisation in conceptualising mental health as a positive state of psychological well-being going beyond the absence of disease,²⁴ then it is clearly a major failing that we rarely operationalise mental health in a way which reflects this theoretical construct. Such a construct can be found in the combination of positive feelings of subjective well-being

together with positive functioning in daily life which has been described as ‘flourishing’.²⁵

Researchers from within the health sciences have on the whole been slow to expand the remit of their research in this direction. An impressive and growing body of evidence from experimental psychology and from the social and economic sciences, however, gives us reason to hope that this should change in the future. This work confirms the importance of good mental functioning for the quality of our lives, cognitive capacity, physical health and social productivity.^{26 27} It further demonstrates that the absence of mental disorder cannot be taken to be synonymous with mental health, and that positive well-being cannot be conceptualised, measured or explained simply as the inverse of poor mental health.^{25 28}

Thus in one example of the type of innovative new research in this area, an index of positive well-being was derived from the General Health Questionnaire (GHQ-30), based upon positive responses to positive items (e.g. “Have you recently felt on the whole you were doing things well?” – these being contrasted with negative items such as “Have you recently been feeling unhappy and depressed?”). This measure of positive well-being was compared with a standard GHQ scoring for chronic psychological distress in a large sample of British adults. A substantial degree of independence between the two measures was found, and the two measures were predicted by different factors. Moreover, in the longitudinal component of this study, the absence of positive well-being at baseline was more strongly predictive of 7-year mortality than the presence of negative psychological symptoms.²⁹

Researching factors which promote mental health carries with it its own specific set of challenges. Methodologically, the use of dimensional scores of mental health (such as the GHQ-30) to complement categorical measures of mental health problems remains an important strategy for investigating good psychological functioning. This is particularly true given evidence suggesting that, as for many other health outcomes, differences in the mean mental health scores of populations may be a powerful predictor of the frequency of mental disorder.^{30 31} Yet the questionnaire instruments commonly used within psychiatric epidemiology are typically validated exclusively on the basis of how well high scores predict mental health problems. Future research demonstrating their validity as a continuous measure of mental health across the full range is therefore important, as is assessing how well such measures correlate with scales specifically designed to measure psychological flourishing.²⁵

As with protective risk factors, one ultimate goal of promotive factor research must be to design and evaluate evidence-based interventions which promote well-being in individuals,³² in populations,³³ and through the use of the levers of social policy³⁴. In doing so, we believe that a central challenge for promotive factor research is to develop theoretical models which can provide an integrated account of those factors promotive of well-being in individuals and those promotive of well-being in society. Often, of course, these will overlap. This should not, however, be assumed a priori: the achievement of a pay-rise by an individual may increase their own well-being (at least in the short term)

but decrease that of their colleagues who are passed over³⁵; spending that pay-rise on a new car or a foreign holiday may increase the individual's own satisfaction still further, but at the cost of contributing to an ecological crisis which may undermine social stability in the medium- to long-term.

Conclusion

There is enormous variation in the prevalence of specific mental disorders between populations and within sub-groups in the same population, and these do not always concord with the distribution of established risk factors. It is also striking that the majority of people who face adversities do not suffer from any mental disorder. We cannot and must not ignore the existence of such adversity, and nor should we allow the existence of protective or promotive factors to be used to argue that eliminating acute socio-economic insecurity, racial discrimination or gender-based violence is any less urgent. Yet a genuine and important concern for people's problems need not obscure the fact may they themselves already have ways of responding to these problems which mitigate their negative effects – or that, when they do not, it may be possible to establish these protective and promotive factors through public health interventions. Moreover, protective and promotive factor interventions do not have to be confined to 'harm-reduction' in the face of risk factors which are non-modifiable (such as genes) or difficult to modify (such as poverty); they may also be a powerful means of removing the risk factor altogether, as in the example above of micro-credit schemes in reducing women's exposure to intimate-partner violence.

We believe that protective factors are therefore crucial to understanding how the effects of risk factors may be modified and even eliminated, and that a better understanding of promotive factors may contribute in powerful and potentially unexpected ways to our understanding of health in general, mental health in particular, and other aspects of social thriving. There exists a rich body of research in these areas, but it is small by comparison with the risk factor literature. In this editorial we have sought to illustrate the importance of such research, some of the conceptual and methodological challenges involved, and some of the exciting findings which have emerged thus far. In so doing, we hope to inspire a renewed emphasis on protective and promotive factor research, which can provide fresh perspectives on the aetiology of mental health, on the prevention of mental disorders in populations at risk, and on the promotion of psychological well-being in us all.

Conflict of interest:

None

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